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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/877,029

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Hajime Kikkawa

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23400

7590

11/03/2004

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EXAMINER

PHAN, TRI H

ART UNIT

PAPER NUMBER

2661

DATE MAILED: 11/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/877,029	Applicant(s) KIKKAWA ET AL.	
	Examiner Tri H. Phan	Art Unit 2661	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 and 12-13 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-10, 12 and 13 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>1-4</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Objections

2. The numbering of claims is not in accordance with 37 CFR 1.126 which requires the original numbering of the claims to be preserved throughout the prosecution. When claims are canceled, the remaining claims must not be renumbered. When new claims are presented, they must be numbered consecutively beginning with the number next following the highest numbered claims previously presented (whether entered or not).

The missing claim is claim 11.

3. Claims 1, 3 and 9 and 10 are objected to because of the following informalities:

In claim 1, "a data type" in line 10 should be correct to -- the data type -- for clarity.

In claim 1, "a header" in line 14 should be correct to -- the header -- for clarity.

In claim 3, "a data relay unit" in line 2 should be correct to -- the data relay unit -- for clarity.

In claim 9, Applicant is respectfully suggested to be spell out the abbreviations of "ECU" for clarity.

In claim 10, "a data body" in line 13 should be correct to -- the data body -- for clarity.

Appropriate corrections are required.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-10 and 12-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Hirano** (U.S.5,856,976) in view of **Kimura et al.** (U.S.5,778,189).

- In regard to claims 1 and 10, **Hirano** discloses in Figs. 1-6 and in the respective portions of the specification about the multiplex transmission system and method for vehicles, in which a plurality of networks are formed and interconnected by the gateway nodes (For example see Fig. 1; col. 3, line 62 through col. 4, line 13); and by virtue of the frame-exchange function possessed by the gateway, data frames are allowed to transfer between networks (For example see col. 4, lines 31-41). The gateway nodes determine whether a data frame is necessitated by other networks based on an ID code ("*data type*"; For example see Figs. 2-5B; col. 6, line 14-64) of the frame, before forwarding it; wherein the ID code is detected at the transmission lines and determined whether the frame includes information required by another network ("*destination table means*"; For example see Fig. 3; col. 7, lines 30-36) and based upon the comparison between the affiliation information ("*header table means*"; For example see Fig. 4; col. 3, lines 6-20; col. 7, lines 37-40) and the received designating information, the CPU in the node

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controller will/will not convert the data frame into the format capable of being used ("*header processing means*"; For example see col. 5, lines 34-37). **Hirano** does disclose about the converting format of the data frame with the correspondence between ID codes and network nodes, but fails to explicitly disclose about the changing header. However, such implementation is known in the art.

For example, **Kimura** discloses in Figs. 1-10, 21-22 and in the respective portions of the specification about the system and method for converting communication protocols between networks (For example see Figs. 1-3), which operate under different protocols are connected by gateways to exchange data. The protocol converter converts the protocols by the method of replacing headers with the new headers (For example see Figs. 6-10; col. 7, line 62 through col. 8, line 12; col. 9, lines 20-59).

Thus it would have been obvious to the person of ordinary skill in the art at the time of the invention was made to implement the invention as taught by **Kimura**, by providing the normal design matter to use a table, in which data types and protocol-converting header contents are correlated into the **Hirano**'s method of determining a data type and forwarding after changing a header, with the motivation being to improve reliability of data transmission and reception in exchange data between different networks as disclosed in **Kimura**: col. 1, lines 60-63.

- Regarding claims 2-4, **Hirano** further discloses about the table information ("*header table means*") corresponding between ID codes and network nodes in the multiplex transmission system ("*multiplex communication system*"); the network nodes controlled by the node controller

(“*header processing means*”) are interconnected by transmission lines (“*communication lines*”) and gateway nodes (“*data relay unit*”) (For example see Figs. 1, 4; col. 2, lines 35-50; col. 5, lines 18-37). **Hirano** does disclose about the converting format of the data frame with the correspondence between ID codes and network nodes controlled by the node controller (For example see col. 5, lines 20-37; wherein, it is obvious that different networks provide different protocols as system engineering design choices).

- In regard to claims 5-9 and 12-13, **Hirano** further discloses about the communication node with electrical accessory (“*ECU*”) and network controller (“*header processing means*”) in the multiplex transmission system for vehicle; where the protocol control of the physical layer level of the CSMA/CD system is carried out by the LSI for transmission between networks (For example see col. 5, lines 26-27); and wherein, **Kimura** discloses about the plurality of networks, which operate under different protocols, are connected by gateways. The gateways convert the protocols by a method of changing headers, e.g. “*adding overhead portion*”, (For example see Figs. 1-3; wherein, it is obvious that different/same protocols are design choices and depend on the systems or networks).

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Jones et al. (U.S.6,430,164), **Levac et al.** (U.S.5,872,926), **Huber et al.** (U.S.6,553,039), **Salim** (U.S.6,628,653), **Kimura et al.** (U.S.5,778,189), **Sasaki et al.** (EP 890906) and **H. Ekiz**

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et al. (Performance Analysis of a CAN/CAN Bridge, 9/96, IEEE, 0-8186-7453, pages 181-188) are all cited to show devices and methods for improving the multiplex communication in the multi-protocol network architectures, which are considered pertinent to the claimed invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tri H. Phan, whose telephone number is (571) 272-3074. The examiner can normally be reached on M-F (8:00-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kenneth Vanderpuye can be reached on (571) 272-3078.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9314

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office, whose telephone number is (703) 305-3900.

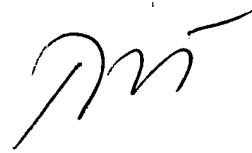
Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

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applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Tri H. Phan
October 25, 2004



DANG TON
ATTORNEY EXAMINER